

## UNIVERSAL WINDOW TREATMENT HARDWARE SYSTEM

### FIELD OF THE INVENTION

5 The present invention relates to mounting hardware for curtains, drapes, blinds, swags and other window treatments.

### BACKGROUND OF THE INVENTION

A variety of window treatment systems exist and these, generally, require  
10 different types of mounting hardware. Window treatment systems include curtains, drapes, valances, Venetian blinds, roll blinds, swags, etc. When one window treatment system is being replaced by another, it is generally necessary to remove the old mounting hardware and install new hardware. Preferably, the old fastener holes on the wall or window frame are filled and positions for new holes are marked and holes are  
15 drilled for the new hardware. The task of positioning the new holes may require temporarily positioning the new window treatment system to determine the most pleasing position for the window treatment and hence, the best positions for the hardware.

This situation has been exacerbated in recent years by an abundance of new  
20 types of window treatments and the current practice of changing window treatments rather frequently. This is a practice being encouraged by interior decorators. The practice necessitates frequent changes in the hardware.

The background technology for window treatment hardware includes a number of  
25 patents that describe hardware elements that can accommodate two or more types of window treatment, or that provide for adjustment of the mounting hardware.

US Patent No. 915,598: This patent teaches a hanger for a shade roller. The system includes a corner bracket attached at the corner of a window. The bracket has flanges (resembling louvers) in alternating pairs. The hanger has corresponding flanges and can be slid in horizontally to engage the bracket. The hanger can be attached at 5 several different elevations on the bracket.

US Patent No. 1,373,333: A fixture is described for supporting a shade roller and two curtain rods. The bracket for the shade roller can be adjusted horizontally. The fixture has the virtue is that it can be made by stamping.

US Patent No. 2,650,053: A curtain rod bracket carrier is taught which is raised 10 and lowered by cords. It has three vertical slots and holes for the cords, and a felt pad to prevent scratching the window frame or wall. Various types of brackets for curtains and traverse rods can be attached to the carrier.

US Patent No. 2,689,103: A vertically elongate rectangular base plate has 15 inturned spaced apart parallel flanges along its vertical edges. Various accessories for curtains, traverse rods, valances, etc can be attached to the base plate. The accessories are inserted vertically and have flange portions that fit behind the flanges on the base plate. Screws enable these to be fixed at any elevation. Some have lateral portions for lateral positioning of the hardware they support.

US Patent No. 3,005,615: A basic element bracket is formed as a box with two 20 sides missing. Slots and holes are provided in the existing sides. One side is attached to the wall. The side remote from the wall is missing and the side toward the window is missing. Various secondary elements can be attached to the basic element bracket and some of these secondary elements have slots for adjustment. All are for adjustably holding supports for curtain rods, Venetian blinds, valances or cornices.

US Patent No. 3,160,384: One portion is permanently attached to the wall. The portion attached to the wall has bars extending diagonally outwardly and upwardly. A plate with tongues extending downwardly and inwardly is engaged with it. The plate has a beam extending out from the wall which supports a curtain. The plate can be put at several different elevations. The inventor speaks of resisting torque. (The curtains are 30 some distance out from the wall)

US Patent No. 3,241,684: This invention includes adjustable traverse drapery rod brackets, both for the ends of the traverse rod and for its center. A wall mountable bracket has a vertical slot for enabling vertical height adjustments for the brackets at the ends and at the center of the traverse rod.

5 US Patent No. 4,120,474: This is similar to US 2,689,103 in having a vertical member with inturned flanges. Viewed from above, it has a C-shaped cross section. The back of the C is attached to the wall. A square nut fits inside the C, and a bracket outside of the C, pressed against the flanges, is held by a screw engaging the nut. Vertical adjustment is provided by the position of the nut. The bracket is for a drapery  
10 rod, sheer, etc.

US Patent No. 4,167,261: L-shaped plates are attached at each upper corner of a window. The plates have many preformed (threaded?) holes and many slots for attachment of mounting brackets for window treatments.

15 US Patent No. 4,179,091: A mounting plate includes flanges with holes for mounting to a wall. The mounting plate has a vertical slot and a square nut behind the slot. A drapery bracket is attached to the nut by a screw, so the drapery bracket can be adjusted up and down the slot.

20 US Patent No. 6,135,403: A mount for supporting the ends of parallel hung curtain rods has telescoping male and female members pivotally mounted on a base with a tensioning screw. Connectors for receiving the ends of the curtain rods are mounted on remote ends of the telescoping male and female members. The distance between the connectors and the angle of an axis intersecting the connectors can be adjusted by loosening the tensioning screw and then tightening it to fix the connectors and, hence, the curtain rods in a desired disposition.

25 Much ingenuity is seen in the patents described above. Nevertheless, none provide a universal mounting system for window treatment hardware.

#### INTRODUCTION TO THE INVENTION

30 In years past, curtains, drapes or blinds hung in our homes for years and were only taken down for annual cleaning. The brackets that attached them to the wall or

window frame remained in place indefinitely. Times have changed. Media programming has many venues focused on home improvement and decorating, and many consumer dollars are being spent in that direction. The present invention will enable homeowners to change window treatments without the use of tools – no more 5 patching plaster. Once the wall hardware of the present invention is installed, it can remain permanently in place. Any type of rod, sconce, etc can then be attached to it, allowing the homeowner to change the look of a room very easily.

The purpose of the present invention is to provide a universal mounting fixture for 10 mounting hardware for all of the common types of window treatment including curtains, drapes, blinds, valances, swags, etc. so that when window treatments are changed, it is unnecessary to remove any hardware that is attached to the wall. It is intended that the mounting fixture be left in place indefinitely, regardless of the type of window treatment 15 that is to be attached.

In residential applications, homeowners will be able to replace their window 20 treatments using this new system instead of the conventional bracket/rod combination now in use. The guest room can be converted to a nursery, to a toddler's room, to a child's room, then a teenager's room and then back to a guest room without ever drilling another hole.

This product can also be marketed through new home builders as an installed 25 package to make moving in much easier. A builder can even place solid wooden blocks in the wall behind the fixture so it need not rely on attachment to wallboard or plaster. The universal mounting fixture can also be used in apartment buildings. Tenants will be free to buy the rods for their individual decorating preferences, and expense from wall damage would be eliminated.

30 In commercial applications, firms can easily change window treatments in accordance with displays. Upscale hotels can cater to specific needs and preferences of their guests.

The universal mounting fixture is designed so that the ends of curtain rods, or brackets made to work with the fixture, can be inserted from above into the universal 35 mounting fixture, and remain in place by virtue of their weight.

Accordingly, it is an objective of the present invention to provide a universal mounting fixture for attachment to a window frame or a wall adjacent to a window frame; the universal mounting fixture providing for attachment of any type of window treatment hardware which is made for attachment to it.

5 It is another objective of the present invention to provide a universal mounting fixture for window treatment hardware which can accommodate simultaneously a plurality of window treatment components, such as curtains, drapes, blinds, valances, etc.

10 It is a further objective of the present invention to provide a universal mounting fixture for window treatment hardware which never needs to be removed.

It is an additional objective of the present invention to provide a universal mounting fixture for window treatment hardware which makes further attachment of hardware to the wall or window frame unnecessary.

15 It is an additional objective of the present invention to provide a universal mounting fixture for window treatment hardware so curtains, blinds, etc, can be easily changed with the seasons in response to changes in sunlight or appearance of the outdoor environment.

20 In addition to the various objectives and advantages of the present invention which have been generally described above, there will be various other objectives and advantages of the invention that will become more readily apparent to those persons who are skilled in the relevant art from the following more detailed description of the invention, particularly, when the detailed description is taken in conjunction with the attached drawing figures and with the appended claims.

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## SUMMARY OF THE INVENTION

In one aspect, the present invention is a suspension system for curtains, drapes, blinds, swags, scarves, or other types of window treatment. The suspension system includes a mounting fixture that includes a window frame or wall engaging portion, the

window frame or wall engaging portion being attachable to a window frame or a wall adjacent a window. The mounting fixture further includes one or more cavity defining portion(s), each enclosing an elongate slotted cavity. The cavity defining portion(s) is/are integral with or attached to the window frame or wall engaging portion. Each

5 cavity has a first end that is open and a second end that is closed by an end closure or blocking member. The mounting fixture is mountable on the window frame or wall with the cavity substantially vertical, the first end disposed above the second end.

The suspension system further includes one or more bracket, rod, valence or other window treatment component, the window treatment component including a

10 mounting fixture engaging portion for attachment to the mounting fixture. The mounting fixture engaging may be attached to the mounting fixture by inserting it into the cavity through its first end, whereby the window system treatment element is supported on the end closure or blocking member of the second end of the cavity.

In another aspect, the present invention is a mounting fixture for a

15 suspension system for curtains, drapes, blinds, swags, scarves, or other types of window treatment. The mounting fixture includes a window frame or wall engaging portion, the window frame or wall engaging portion being attachable to a window frame or a wall adjacent a window. The mounting fixture includes one or more cavity defining portion(s) enclosing at least one elongate cavity, the cavity defining portion(s) being

20 either attached to or integral with the window frame or wall engaging portion. Each elongate cavity communicates with a slot disposed in the cavity defining portion that contains the cavity. The elongate cavity includes a first end and a second end, the first end being open and the second end being closed by an end closure or blocking member. The mounting fixture is mountable with the elongate cavity substantially

25 vertical, so that the first end is disposed above the second end.

The mounting fixture is engageable by at least one bracket, rod, cornice or other window treatment component, the at least one window treatment component including a cavity engaging portion for attachment to the mounting fixture by insertion into the cavity through the first end of the cavity, whereby the window system treatment

component is supported on the end closure or blocking member at the second end of the cavity.

In another aspect, the suspension system further is a bracket, rod, valence or other window treatment component, the window treatment component

- 5 including a mounting fixture engaging portion for attachment to a mounting fixture having an elongate cavity, the elongate cavity having a first end that is open and a second end that is closed or blocked. The mounting fixture engaging portion of the window treatment component may be attached to the mounting fixture by inserting it into the cavity through the first end of the cavity, whereby the window treatment component
- 10 is supported on the end closure or blocking member at the second end of the cavity.

#### DESCRIPTION OF THE DRAWINGS

Figure 1 is a sketch of a suspension system including a mounting fixture and a bracket for a drapery rod, according to the present invention.

- 15 Figure 2 is an illustration of the suspension system of Figure 1 assembled.

Figure 3 is an illustration of a mounting fixture attached to a window frame or wall adjacent a window, according to the present invention.

Figure 5 illustrates a mounting fixture having a cylindrical cavity and a bracket having a cylindrical cavity engaging portion.

- 20 Figure 6 is a top view of a mounting fixture having a blocking member for support of a bracket.

Figure 7 is a front view of the mounting fixture shown in Figure 6.

Figure 8 is an illustration of a mounting fixture having mounting holes disposed between cavity defining portions.

Figure 9 is an alternative mounting fixture having at least one cavity having a rib with two flanges.

Figure 10 is a top view of a bracket for a rod for rod pocket curtains.

Figure 11 is a side view of the bracket of Figure 10.

5 Figure 12 is a top view of a rod for rod pocket curtains which includes a cavity engaging portion for engagement with a mounting fixture.

Figure 13 is a side view of the rod shown in Figure 12.

Figure 14 is an illustration of a bracket for a traverse rod.

10 Figure 15 is an illustration of a cornice having a cavity engaging portion for engagement with a mounting fixture.

Figure 16 is a top view of a bracket for the right side of a roll blind, the bracket including a cavity engaging portion.

Figure 17 is a side view of the bracket shown in Figure 16.

15 Figure 18 is a top view of a bracket for the left side of a roll blind, the bracket including a cavity engaging portion.

Figure 19 is a side view of the bracket shown in Figure 18.

Figure 20 is a top view of a bracket for Venetian blinds.

Figure 21 is a side view of the bracket shown in Figure 20.

20 Figure 22 is a bracket for a scarf or swag, the bracket including a cavity engaging portion.

Figure 23 is an illustration of a mounting fixture with a bracket for supporting a drapery rod above the top of the fixture.

#### IDENTIFYING NUMERALS EMPLOYED IN THE DRAWINGS

- 5 10 Suspension System
- 12 Window frame
- 14 Window
- 16 Wall adjacent window
- 20 Mounting Fixture
- 10 22 Mounting plate with holes
- 24 Holes in mounting plate
- 26 Cavity defining portion having ribs with one flange
- 28 Rib with one flange
- 29 Flange
- 15 30 Rectangular elongate cavity
- 32 First end of cavity
- 34 Second end of cavity
- 36 End closure
- 38 Blocking member
- 20 39 Slot (rectangular cavity)
- 40 Mounting fixture having mounting holes disposed between cavity defining portions
- 42 Mounting plate having holes between cavity defining portions
- 50 Mounting fixture having at least one rib with two flanges
- 25 52 Cavity defining portion having at least one rib with two flanges
- 54 Rib with two flanges
- 60 Mounting fixture with cylindrical cavity
- 62 Cavity defining portion for cylindrical cavity

- 64 Cylindrical cavity
- 66 Slot communicating with cylindrical cavity
- 70 Drapery rod bracket having rectangular cavity engaging portion
- 72 Rectangular cavity engaging portion
- 5 74 Drapery rod bracket having cylindrical cavity engaging portion
- 78 Cylindrical cavity engaging portion
- 80 Portion of drapery rod bracket extending outwardly through the slot
- 82 Concave support area.
- 90 Bracket for rod for rod pocket curtains
- 10 91 Portion of bracket for passing through slot
- 92 Rod for rod pocket curtains
- 93 Upward protuberance
- 95 Hole in top of rod
- 96 Curtain rod for rod pocket curtains having cavity engaging portion thereon
- 15 97 Portion for passing outwardly through slot
- 98 Bracket for traverse rod for curtains
- 99 Traverse rod
- 100 Cornice having cavity engaging portion thereon
- 102 Bracket for roll blinds (Right side)
- 20 104 Bracket for roll blinds (Left side)
- 106 Bracket for Venetian blinds
- 107 Lid of Venetian blind bracket
- 110 Bracket for swag or scarf
- 120 Bracket for drapery rod having length of cavity engaging portion in excess of length
- 25 of cavity
- 121 Long cavity engaging portion
- 130 Mounting fixture with blocking members

## DETAILED DESCRIPTION OF THE INVENTION

Attention is directed to Figures 1 and 2, which illustrate an embodiment of the present invention that is for support of a drapery rod. The invention is a suspension system 10 comprising two basic parts. One is a mounting fixture 20 which is for

- 5 attachment to a window frame or a wall adjacent a window. The other is a bracket 70 for support of a drapery rod (not shown). Fixture 20 includes a window frame or wall engaging portion, which in this case, is a mounting plate 22 having mounting holes 24. Fixture 20 includes three cavity defining portions 26 which are either attached to or integral with mounting plate 22. In this embodiment, cavity defining portions 26 include
- 10 ribs 28, each rib having one flange 29. Cavities 30 are defined between ribs 28. Each cavity 30 has a first end 32 that is open and a second end 34 that is closed or blocked. A slot 39 communicates with each cavity 30, the slots being defined between flanges 29.

The bracket 70 includes a cavity engaging portion 72 which may be inserted into

- 15 one of the cavities 30 through open end 32 of cavity 30. Cavity engaging portion 72 of bracket 70 is supported on closed end 34 of cavity 30. Bracket 70 has a concave support area 82 which is for support of the drapery rod. Figure 2 illustrates the suspension system 10 with the bracket 70 assembled with the mounting fixture 20. A portion 80 of drapery rod bracket 70 passes outwardly through slot 39.

- 20 Figure 3 shows the mounting fixture 20 attached to a window frame 12 adjacent window 14. Figure 4 shows the mounting fixture 20 attached to wall 16 adjacent window 14.

Figure 5 shows a mounting fixture 60 having a cavity defining portion 62 having cylindrical cavity 64. Mounting fixture 60 includes slot 66 communicating with cylindrical cavity 64. Drapery rod bracket 74 has a cylindrical cavity engaging portion 78 for engagement with cylindrical cavity 64.

Figure 6 illustrates a mounting fixture 130 having blocking members 38 for support of a window treatment component, such as bracket 70 discussed above. Blocking members 38 may be plugs attached to or integral with mounting plate 22.

Figure 7 shows mounting fixture 130 from the front.

5 Figure 8 shows a mounting fixture 40 having mounting plate 42 with mounting holes 24 disposed between adjacent ones of the cavity defining portions 26. Mounting fixture 40 has the advantage that it can easily be hidden by curtains, drapes, or other window treatments which it supports.

10 Figure 9 illustrates a mounting fixture 50 including a cavity defining portion 52 having ribs 54 with two flanges 29.

The subsequent figures illustrate various types of window treatment components that are for engagement with a mounting fixture such as or similar to 20, 40, 50 or 60. Figure 10 shows a top view and Figure 11 shows a side view of a bracket 90 which is for support of a curtain rod 92 for rod pocket curtains (not shown). A portion 91 of 15 bracket 90 passes through the slot 39, 66 or the like in a mounting fixture according to the present invention. An upward protuberance 93 is for engagement with hole 95 in curtain rod 92.

Figures 12 and 13 illustrate a curtain rod 96 having a cavity engaging portion 72 and a portion 97 for passing outwardly through the slot of the mounting fixture.

20 Figure 14 illustrates a bracket 98 for a traverse rod 99. An upward protuberance 93 on bracket 98 is for engagement with hole 95 on traverse rod 99.

Figure 15 illustrates one end of a cornice 100 having a cavity engaging portion 72 disposed thereon. The opposite end of cornice 100 is similar and is not shown. Cornice 100 is for attachment to mounting fixtures such as 20, 40, etc disposed on 25 opposite sides of window 14.

Figures 16 and 17 illustrate top and side views of a bracket 102 for the right end of a roll blind (not shown). As before, bracket 102 includes a cavity engaging portion 72, according to the present invention.

Figures 18 and 19 illustrate top and side views of a bracket 104 for the left end of 5 a roll blind (not shown). As before, bracket 104 includes a cavity engaging portion 72, according to the present invention.

Figures 20 and 21 illustrate top and side views of a bracket 106 for Venetian blinds (now shown). Bracket 106 includes a cavity engaging portion 72, according to the present invention. Bracket 106 includes a lid 107 which facilitates assembly with the 10 Venetian blind.

Figure 22 illustrates a bracket 110 which is for a swag or scarf. As before, bracket 110 includes a cavity engaging portion 72, according to the present invention.

Figure 23 illustrates a bracket 120 which is to support a drapery rod (not shown) above the top of mounting fixture 20. Bracket 120 includes a cavity engaging portion 15 122 having a length greater than a length of elongate cavity 30.

While mounting fixtures 20, 40, 50, and 60 have been discussed above in some detail, it should be realized that various other mounting fixtures, in accordance with the present invention, would be obvious to a person skilled in the relevant art, on the basis of this patent. Likewise, whereas the window treatment components such as brackets 20 70, 74, 90, 98, 102, 104, 106, 110 or 120 or curtain rod 96 or cornice 100 have been discussed in some detail, various other window treatment components having cavity engaging portions such as 72 or 78 would also be obvious to a person skilled in the art, on the basis of this patent. The scope of the invention is, therefore, to be established by the claims as supported by the specification and the figures.